

May 19, 1980

~~Johnston~~  
~~rice~~  
Kawabata

Regional Administrator  
Region X  
U. S. Environmental Protection Agency  
1200 Sixth Avenue  
Seattle, Washington 98101

RECEIVED  
MAY 22 1980  
PERMITS BRANCH  
EPA - REGION 10

Attention: Mr. Michael Johnston

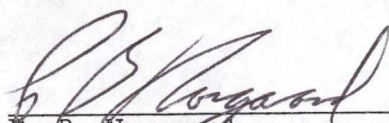
Dear Sir:

SUBJECT: COMMENTS ON THE PRELIMINARY DETERMINATION OF A  
PSD PERMIT APPLICATION FOR PRUDHOE BAY UNIT  
PRODUCED WATER INJECTION, LOW PRESSURE SEPARATION,  
AND ARTIFICIAL LIFT PROJECTS

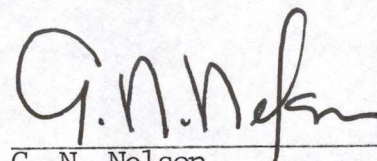
On April 28, 1980, a Preliminary Determination was issued by the USEPA on a PSD application for the Prudhoe Bay Unit Produced Water Injection, Low Pressure Separation, and Artificial Lift Projects. Sohio Alaska Petroleum Company and ARCO Oil and Gas Company, on behalf of the Prudhoe Bay Unit Owners, wish to submit for your consideration the attached written comments regarding these proposed projects.

We desire a final determination on this application by June 1.  
If you would like to discuss these comments, we would be pleased to meet with you at your earliest convenience.

Very truly yours,

  
P. B. Norgaard  
ARCO Oil & Gas Company

*upmt  
Sohio  
WJB*

  
G. N. Nelson  
Sohio Alaska Petroleum Company

Attachments (1)

c: Mr. Tom Harna, ADEC  
Mr. Doug Lowery, ADEC

USEPA REG



0000103



PRELIMINARY DETERMINATION COMMENTS

RECEIVED  
MAY 22 1980  
PERMITS BRANCH  
EPA - REGION 10

1. Compliance Testing

The Preliminary Determination states that "Compliance testing shall be conducted for each of the groups as identified in Table 7." This statement does not clearly indicate whether each turbine and heater or units of a particular kind must be tested. A telephone conversation with Paul Boys of your staff on May 9, 1980, indicated that compliance testing of one turbine and one heater of each particular kind was adequate to demonstrate compliance.

Recognizing that turbines and heaters for these projects may be installed over a period in excess of three years, we recommend the following compliance testing program:

There shall be "one of a kind" testing of: 1) heaters on-site within 60 days after achieving maximum operating rates but not later than 180 days after initial startup, 2) testing turbines either at the manufacturers plant prior to shipment to Prudhoe Bay, or on site within the time specified for heater testing. A heater or turbine unit of a particular kind installed during the initial phases of construction shall be acceptable for compliance demonstration purposes for units of the same kind installed later in the project.

We feel that the recommended compliance testing program will adequately demonstrate compliance with the emission limitations without involving the expense of numerous unnecessary tests.

2. Five Percent Opacity Limit

The Preliminary Determination states that there will be a 5% opacity limit on all heaters and turbines.

Although it is recognized that visible emissions will probably be low, the 5% limit is quite arbitrary (telecon with Paul Boys May 15, 1980). Consultation with manufacturers of gas-fired heaters and turbines indicated that opacity specifications are not generally written. According to one turbine manufacturer, smoke density specifications are written in terms of a Bacharach number.

One of a kind  
for heaters.  
Submit test plan  
demonstrating that  
what they are testing  
is representative

Alternatives  
to on-site available  
in 40 CFR 60  
Turbines must be  
tested according  
40 CFR 60.336

- Margin of safety  
- Accomplish same  
- Same control for  
the area in  
question  
1030 turbines only  
not heaters.



However, there is no direct correlation between Bacharach number and opacity. The former measures the blackness of white filter paper through which a flue gas sample has been passed, while the latter measures the transmissivity of light through a plume. Among other factors, the particulate size influences each of these test procedures differently. Therefore, we have no real means of justifying or guaranteeing a 5% opacity limit.

Assuming that the intent of the proposed 5% opacity limit is to insure proper operating conditions, the 20% opacity limit established by the State of Alaska appears to be adequate. We recommend that the opacity limit be changed to 20%.

### 3. Continuous CO or O<sub>2</sub> Monitoring

*Word such that  
cont. monitoring  
require approval  
before acceptance*

The Preliminary Determination states that "a continuous monitoring system shall be installed to monitor either O<sub>2</sub> to CO for all gas-fired heaters with a capacity greater than 43 MM BTU/hr." A program of regular monitoring of utility and process heater stack emissions has been conducted at Prudhoe Bay. For this program, heater stack emission monitoring is scheduled monthly through a Preventive Maintenance (PM) Program. Portable O<sub>2</sub> combustible gas analyzers built by Teledyne Analytical are used to measure the free O<sub>2</sub> in the stack emissions at prescribed monitoring ports in the stacks. During 1979, 185 PM's were performed on 15 heater stacks. There were a total of four adjustments made to the burner trim as a result of this monitoring.

Based on this experience, we recommend that alternative programs be permitted: either continuous monitors or an approved combustion preventive maintenance program similar to the one referenced above should be allowed. This option would give the operators more flexibility and at the same time provide adequate control on heater combustion efficiency.